

Translation from the Polish language

THE PATENT OFFICE OF THE REPUBLIC OF POLAND

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A CERTIFICATE

Advanced Digital Broadcast Ltd.

Taipei, Taiwan

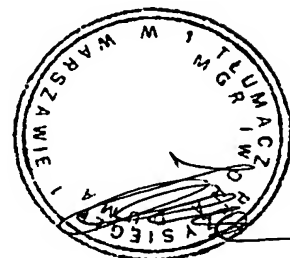
Advanced Digital Broadcast Polska Sp.z o.o.,

Zielona Góra, Polska

on December 30th 2002 submitted to the Patent Office of the Republic of Poland an application for granting a patent for an invention called „A system of transmission of television programs with a variable number of advertisements and a method of transmission of television programs."

The description of the invention, which was attached to this certificate, the author's claims and the drawings are true copies of the documents, which were submitted together with the application on December 30th 2002.

The application was submitted under the following number: P-358051.





Warsaw, as of February 20th, 2003

on behalf of the President

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MA. Jowita Mazur

Specialist

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A system of transmission of television programs with a variable number of advertisements and a method of transmission of television programs

5 The object of the invention is a system of transmission of television programs with variable number of advertisements and a method of transmission of television programs.

Currently, among television channels, we can distinguish channels with high and low advertisement contents. There are many advertisements in the first ones, which allow decreasing subscription fees for the viewers, because a part or all the costs of broadcasting a channel are covered from the fees of advertisers.

10 Low advertisement content makes a channel friendlier in reception, however forces an increase of the costs of subscription for reception of such channel.

Channels, which comprise most interesting programs, are most frequently



charged with the highest fee. Not all the users can afford to receive these channels. The cost of subscription can be reduced by broadcasting a greater number of advertisements. However, there is a group of users, who can afford a high subscription, in return for which they require a minimum number of advertisements on a given channel.

A solution to this problem is to broadcast two versions of the same channel. There are more advertisements broadcasted in one version, and the share of advertisements is lower or there are no advertisements in the second version. Still, with the technical resources, available at present a broadcast of a second version of the channel requires to double the throughput of the transmission band.

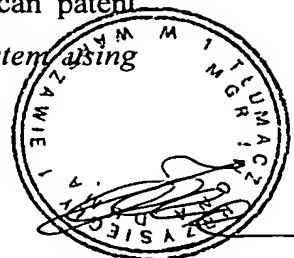
The American patent application US 2002/0,083,445 '*Delivering targeted advertisements to the set-top box*' describes a delivery of advertisements through an additional channel, dedicated to advertisements. However, only different configurations of advertising channels were presented there, including an analogue channel, a digital channel with low, high or variable throughput. The mentioned description does not refer to the method of use of advertisements broadcasted in such a way.

However, the application WO0/33848 '*Method apparatus for swapping the video contents of undesired commercial breaks or other video sequences*' gives a method of

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replacing advertisements broadcasted in television signal by another signal, for example a program read from a hard disk or application presenting the content of the box with electronic mail of the user of the decoder. However, the aim of this method is only to exchange advertisements with other content, which is more interesting for the user, or with other advertisements, adjusted to a given user.

There are also known devices for recording television signal and its subsequent playback, called PVR, which is abbreviation for *Personal Video Recorder* in English. In these devices, a hard disk is the most common data carrier. PVR allows a simultaneous recording of a currently received television program and a program recorded earlier. This allows, among others, to shift the watched program in time, which means to play the program with a certain delay in relation to the broadcasted program with maintained continuity. An exemplary solution of a device for recording television signal and its subsequent playback is presented in the American patent description US 5,371,551 (Re. 36801) "*Time delayed digital video system*" using



concurrent recording and playback'.

50 The essence of the invention is that in the system of transmission of television programs with a variable number of advertisements, comprising a transmitter, transmitting television programs and advertisements and devices receiving television programs and advertisements, the transmitter has a system for broadcasting the signal controlling the number of displayed advertisements, and devices receiving the television programs have a system for receiving the signal controlling the number of
55 broadcasted advertisements.

Favorably, television programs are transmitted on primary channels, advertisements on a channel with advertising units, and the signal controlling the quantity of displayed advertisements on control channel.

60 Favorably, the control channel includes tags of P program, controlling the record of signal from the primary channel and tags of R advertisement, controlling the playback of the recorded signal or advertisement.

Favorably, in case when the break between the record and playback of the recorded signal is shorter than the specified time, the recording of signal is stopped, and signal from the primary channel is played.

65 Favorably, together with the tag of R advertisement, a list of advertisements, which are to be played during the advertising break, is broadcasted.

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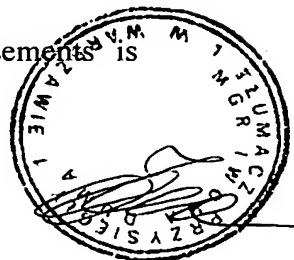
Favorably, in case when the tag of R advertisement becomes inactive, the currently played advertisement is played till the end, and after it is finished, the playback of the recorded program is continued.

70 Favorably, advertisements are formed into advertising units, marked with tags, consisting of a code of the segment, which defines the main segment of products, sub-segment code, which defines the category of the product in a given segment in detail, a code of producer of the product and a code of advertisement, which identifies advertisement of a given producer from a specified segment.

75 Favorably, at choosing the advertising unit to be displayed it is checked if it is not a competitive unit to the previously displayed unit.

Favorably, television programs are transmitted on primary channels together with the signal controlling the quantity of displayed advertisements and advertisements on
80 the channel with advertising units.

Favorably, the signal controlling the number of displayed advertisements



displayed in the device receiving television programs, to which a control channel is assigned.

85 The essence of the invention is also that in the method of transmission of television programs in the system of transmission of television programs with a variable number of advertisements including a transmitter transmitting television programs and advertisements and devices receiving television programs and advertisements, on the primary channel, besides the television program, there is also a control signal broadcasted, which forces display of advertisements.

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90 Favorably, advertisements are displayed on the screen of the television set after a displaying a television program is stopped.

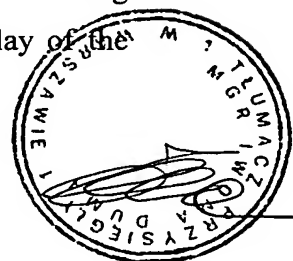
Favorably, the advertisements are displayed in a specific place on the screen together with the display of television program.

95 Favorably, advertisements are displayed after activating the control signal by means of a specific button of the remote control unit or after choosing the channel with advertisements.

Favorably, the control signal includes P and R tags, which force a break in
100 displaying the signal from the primary channel and a start of advertising display, tags forcing a background signal recording from the primary channel on a data carrier, tags forcing playback of signal from primary channel and tags forcing playback of signal from the data carrier and tags stopping the background signal recording from the basic
105 channel on the data carrier.

In the simplest solution of the system of television program transmission with a variable number of advertisements, the transmitter together with the television program and advertisements transmits the signal controlling the number of displayed advertisements, and devices receiving television programs and advertisements possess a system for receiving the signal controlling the number of displayed advertisements.

110 The solution, which is particularly suitable for application in digital television, is based on a system of broadcasting television channels in two versions, where the second version takes up only a fragment of the band occupied by the primary channel. In the system, the primary channel is broadcasted with a low share of advertising contents (or no advertisements at all), and a channel controlling the display of the



115 second channel, with a higher share of advertisements. In the broadcasting channel
there are tags broadcasted, which force a playback of advertisement in a specified
time. During the playback of the advertisement, the signal from the primary channel is
recorded in the storage of the decoder, and after it is finished – played with a delay.
120 Advertisements, displayed on the second channel are collected from the storage of the
decoder according to the preferences of the user.

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The user has a choice of at least two versions of the same program, the first of which
is the version broadcasted on the primary channel, and the second is created from the
version broadcasted on the primary channel, enriched with advertisements broadcasted
125 on the advertisement channel or played from the data carrier.

Availability of different versions of one program to the user has many advantages, of
which the main ones are related to the differentiation of television fees. For example,
when the user cannot afford a high fee for watching an interesting program, he/she can
130 change to a channel, on which the program is interrupted with advertisements, which
decreases the fees for it.

Moreover, in the primary channel special programs can be broadcasted, for example
after the program as an interlude, such as additional information about the program
broadcasted earlier, informational programs, available only to the users receiving the
primary channel – only advertisements can be broadcasted in this time on the
135 advertising channel. Besides it, there is a possibility of connecting the presented
solution with the system, known in English as '*Pay-per-view*', which enables to
calculate the fees for the users only for what they have watched. As a result of
combination of both systems, there is a possibility of differentiating the fees for the
140 channel, from which a given program was received.

Fig. 1 illustrates a structure of a device, receiving television programs, which is the
decoder 101, with a built-in system for recording television signal and its further
playback. In the decoder 101, a signal receiving block 102 was distinguished, a block
145 of the processor 103, the Audio/Video block 104, which is responsible for generating
signal in the format acceptable by the television set and the mass storage block 105,
which serves the role of a device for recording television signal and its later playback,
which is used by PVR software, installed in the decoder, which is usually a hard disk.

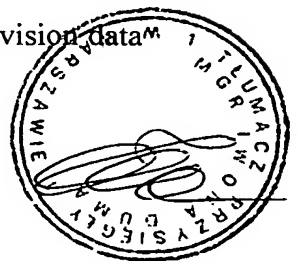


150 The components of the block 102 of signal receiving include tuners and demodulators, transforming the signal from analogue into digital form. The block 103 of the processor deals with signal processing (among others decompression of MPEG signal) and handles the decoder's software. The components of the block 103 of the processor

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include among others the signal processing block 111, responsible for operations on the received signal, such as among others signal descrambling and decompression and control of data streams transfer to other blocks, the block 112 of choosing signal reception, which receives commands of the user, made by means of a remote control
155 unit, related to the channel, which is to be displayed on the screen of the TV set. They also include the block 114, handling the mass storage, controlling the transfer of data streams between the processor 103 and the mass storage block 105 and the marker analysis block 113, which analyzes the tags broadcasted in the control channel, and based on them it sends appropriate commands related to the playback and recording of the signal to the signal processing block 111 and the mass storage block 114. The
160 above blocks should be treated as functional blocks, in the actual embodiment they can be joined together or disconnected into smaller fragments.

From the device 161, transmitting the television program, advertisements and, by means of the control signal generator 162, the signal controlling the quantity of displayed advertisements a stream 121 of television signal is transmitted through a
165 network 171 of cable, terrestrial or satellite television. This stream is received by block 102 of the decoder, in which it is processed into a digital stream 122 of television signal comprising of a signal of primary channel, advertisement channel and control channel. The digital stream 122 of television signal is next processed into a
170 descrambled and decoded digital signal 123 to be displayed on the screen of the TV set, and next processed into signal 124 in a form acceptable by the receiver, for example PAL, SECAM, NTSC. Moreover to the signal processing block 111 commands 125, given by system 112 of choosing the reception signal, and commands
175 127 given by the block of tags analysis, are directed. However, from the signals processing block 111, the signal 126 of the control channel is transmitted to the marker analysis block 113, from which in turn commands 129 are issued to the block, handling mass storage. Besides the above described signals and commands between the signal processing block 111 and mass storage block 105, there is a television dataTM



180 stream 130, 131 transmitted. Mass storage block 105 and signal processing block 111

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can also be connected with a data bus directly, and then the block 114, handling mass storage would only control data transfer.

Therefore the signal of primary channel is transmitted via streams 121, 122, 123, 124, or 121, 122, 130, 131 - if it is directed to the mass storage block. However advertisements are received from a stream of television signal, from the channel, transmitting advertising units – via streams 131, 130, 123, 124.

190 In the channel with advertisements, three signals can be displayed, to be precise the signal from the primary channel via streams 121, 122, 123, 124, the signal from primary channel, played with a delay, it is the signal from mass storage block via streams 131, 130, 123, 124 and advertisement signal, played from the mass storage block and transmitted via streams 131, 130, 123, 124.

195 In the decoder illustrated in fig. 1 one can distinguish a path 151 of the transfer of signal from the primary channel to the television set, a path 152 of the transfer of control signal and a path 153 of the transfer of signal of the channel with advertisements.

200 Advertising materials, designated to be displayed when a television channel is watched, are sent in a separate channel or advertising channels. Depending on the needs, the operator can set one common advertising channel, in which advertisements will be broadcasted for various television channels, or assign a separate advertising channel.

205 In case of the first solution advertisements allocated to all television channels are subjected to be recorded on the disk, irrespectively of the currently watched channel. Transfer of data in such channel is relatively high and requires an increased activity of the storage system (for example a hard disk). However this solution guarantees availability of the majority of advertising units.

210 In the second solution only advertisements, broadcasted in an auxiliary channel, dedicated to one, currently watched television channel, are recorded on the disk. The volume of data transfer for each of the advertising channels is small – approximately proportional to the percentage content of the advertisements in the whole audiovisual broadcast of this television channel.

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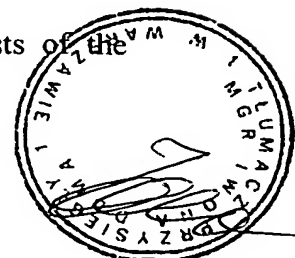
In case of such solution, advertisements for the television channel, which was not watched for a longer time, are available only after some time from the moment of choosing this channel, because the decoder has to read them from the advertising channel.

In order to enable a broadcast of advertisement channel in other stream than the primary channel, the block of signal reception and the processor must enable processing of two television signal streams simultaneously – this is possible for example thanks to two tuners and demodulators comprised in the block of signal reception and a processor capable of handling of a few streams (for example, the processor ST5514 of STMicroelectronics).

Each advertising unit constitutes a single advertising film, which is independent and different from advertisements of other products and other, even similar advertisements of the same product. The structure of the advertising unit is illustrated in fig.2. Such unit consists of a header and data. The header comprises an identifier 201 of the unit (unique for every unit), channel identifier 202 or a list of identifiers of channels to which the given unit is allocated, time range 203 defining the hours of times of the day, when the given advertisement is to be broadcasted, the date of expiry 204, setting out the date, after which the advertisement will be withdrawn from the advertisement set and should be no longer displayed – thus it sets the time, after which the advertisement can be definitely erased from the storage of the decoder, units 205, which are competitive to the given advertisement – the field allows avoiding in the composition consecutive advertising films, vicinity of advertisements of similar products of different producers or a different clash; during the automatic generation of a series of advertisements this field will allow the decoder to set the series, in order to avoid undesirable neighborhood, the time 206 of duration (length) of a given advertisement. After the header, there is a data block 207, which constitutes the contents of the advertisement.

The operator can define himself the method of identifying a unit. An exemplary method of recording the identifier of a unit, besides its unique identification, allows to compare the advertisements semantically and apply more

advanced rules of choice. This method is presented in fig. 3. It consists of the



following fields:

- code 211 of the segment, consisting of 3 signs, which defines the main segment of products, to which the given advertisement is related (e.g., 111 – mechanical vehicles, 222 – food products, 333 – products for children);
- 245 - code 212 of sub-segment, consisting of 4 signs, which specifies a detailed product category in a given segment (for example, for the segment of mechanical vehicles this can be 1001 – sports cars, 1002 – off-road vehicles, 2003 – trucks);
- code 213, consisting of 5 signs, which identifies advertisement of a specified producer out of a defined segment.

Channel identifiers, to which the given unit is designated, can be given in form of a list of defined channel numbers, or as a type of channels or programs, broadcasted on them, for example a unit can be allocated to channels no. 23 and 45, or to sport programs and news.

The time range, which defines the broadcasting time of an advertisement can also be given in a form of a list, in which broadcasting hours of the advertisement are defined (e.g. 12.00-18.15) or specific days (e.g. Monday, 12.00-22.00).

250 Competitive units to the given advertisement can be specified by providing a list of identifiers or samples of identifiers of competitive units. For example considering the above described recording of identifier, if this list is to contain element 111xxxxxxxxxxxxxx – this will mean, that all units related to the segment of mechanical vehicles will be treated as competitive units.

255 The content of the main television channel is transmitted in a standard way.
The second channel, advertising channel, is created in the decoder on the grounds
260 of information broadcasted in the control channel.

Examples of broadcasting the primary channel and the channel with advertisements were presented in fig. 4 and 5. In the control channel tags are broadcasted:

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tag P and tag R, which define if a program is currently broadcasted in the primary channel (then tag P is equal 1) or a break (P=0), and if in the channel with advertisements an advertisement is to be currently played (R=1) or not (R=0).

270 Since in the control channel tags are broadcasted, it occupies a slight part of the band in comparison to the primary channel.

Broadcasting tag P=1 is forced in PVR system by background recording of



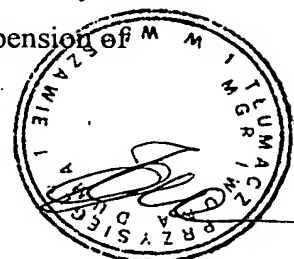
signal from the primary channel. When tag $P=0$, background recording of the signal is stopped. Broadcasting tag $R=1$ forces a break of the signal playback from the primary channel and a start of advertisement displaying. Tag $R=0$ orders a playback of signal from primary channel.

Fig. 4 illustrates a situation, in which program 301, 303, 305, 311, 313, 315 on the primary channel is interrupted with breaks, which can be for example informational breaks 302, 304 or advertisement insertions 312, 314. When a program is broadcasted, tag $P=1$, when an insertion is broadcasted then tag $P=0$. During broadcasting insertions on the primary channel, advertisements are broadcasted on the channel with advertisements ($R=1$).

Fig. 5 shows a situation, where program 321, 322, 323 on the primary channel is not interrupted with advertisements, while after it is finished an inter-program break 324 is broadcasted, for example a cultural one or including current news, with the length equal to the length of advertisements 332, 334, which will be broadcasted on the channel with advertisements. Users, who receive a version of the channel with advertisements during the program broadcasted in blocks 331, 333, 335 will watch advertisements 332, 334. In another solution advertisement 332 will be displayed in a specific place of the TV set in the box with specific dimensions during the display of the program 322 without interrupting it. Advertisements can be displayed after their activation by means of a special remote control button or after changing to a specific channel.

The algorithm of operation of the system handling two channels is illustrated in fig. 6. Handling the two channels starts when the user chooses a specific channel in step 401. In step 402 the system starts to playback the signal from the primary channel. Next, in step 403,

reads the closest broadcasted values of tags P and R . Next, in step 404, the system monitors the upcoming tags in the control channel and observes their change. A change of tag P from 0 to 1 causes in step 405 activation of signal recording from the primary channel to the memory. A change of tag P from 1 to 0 causes in step 406 that signal recording from primary channel to the memory is switched off. A change of the tag R from 0 to 1 causes in step 407 a suspension of



305 playback of signal from the memory and a start of procedure of advertisements
playback in step 408. A change of the tag R from 1 to 0 causes in step 409 a
suspension of the procedure of advertisement playback and a playback of signal
recorded in the memory in step 410.

310 Step 409 of playback of the signal recorded in the memory is based on
checking if a program is recorded in the memory. If so, it is played. If not, signal
broadcasted on the primary channel is played. Signal from the primary channel is
played also when the program from the memory is finished.

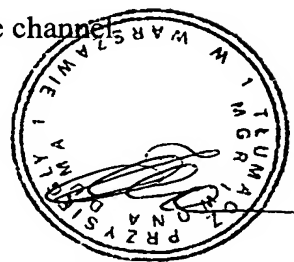
315 In order to relieve the memory chip of constant data recording and reading,
it is possible to check during the reading, if the difference between the
broadcasting time of the currently played program content and the current time is
lower than a specific value, for example 1 second. This means that there is a little
time shift between the command of the start of recording the signal to the memory
and its playback. If such a short break occurs, background signal recording should
be switched off and a transition to playback directly from the primary channel
should be made.

In the case illustrated in fig. 5, when the user changes to other channel during
the time when the program is played with a delay (for example after the first
advertising break), the decoder should still record the contents of the current
channel.

320 The procedure of changing the channel started in step 401 after the user has
chosen a channel, and before the procedure illustrated in fig. 6, is presented in fig.
8. In step 601, after the command of selecting a new channel, the procedure
checks in step 602, if for the currently chosen channel background recording of
325 program is switched on. If so, in step 603, the procedure sets the recording timer

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330 of recording the contents of the current channel. Such timer can be set for example at
3 minutes. The timer from this moment counts down the set time. When it comes to
zero, it stops recording the signal from the channel, for which it was set. This
recording becomes inactive and other signal can be recorded in its place. In step 604 it
is checked if the newly chosen channel has background recording set. If so, the timer
335 of this channel is deleted in step 605, because in a moment it will be an active channel



In the last step 606 a transition is made to display the selected channel, according to steps from the procedure in fig. 6. Thanks to this procedure, when the user changes from a channel, the signal of which is recorded, to another channel, however for the time not longer than 3 minutes the signal of this channel will still be recorded. When the user comes back to this channel, he will be able to watch the program, being
340 recorded from the moment, when he/she left the channel.

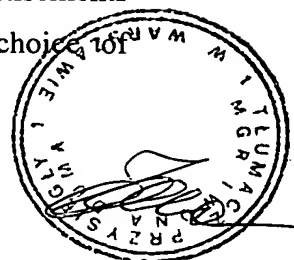
In order to enable the procedure to be operated by the decoder, the signal receiving block and the PVR system must be able to service as many streams as there are programs simultaneously recorded and the stream of currently displayed channel.

Broadcasting of advertisements starts together with the detection of the start of the advertising block (a change of tag R from 0 to 1). After choosing an advertisement, it is displayed. The procedure of playback of advertisements consecutively selects
345 the advertisements playback (a change of tag R from 1 to 0). There are two methods of finishing this procedure. In the easiest method, the display of advertisement is switched off together with the arrival of the command of finishing the display. Such method proves to be good in case when advertisements have identical length and the
350 length of the advertising block is a multiplication of the length of the advertisements. It may also happen that advertisements have different lengths and the length of the advertising block is not a multiplication of the length of advertisements. In such case the command of suspending the procedure of advertisements playback causes an end to their playback only in the moment of finishing the playback of currently
355 broadcasted advertisement. Only after its end, the system comes to playback of the program.

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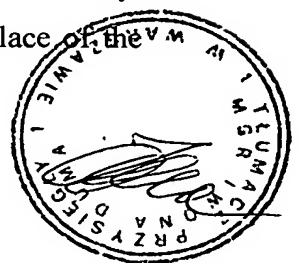
In the control channel, together with the tag, which indicates that advertisement has been sent ($R=1$), a list of indicators of preferred advertisements can
365 be sent. Then, first the advertisements requested by the operator will be displayed. If these advertisements are not recorded in the local memory, or when the list of advertisements is finished, other advertisements are played out of the advertisements set, which is available in the local memory. The algorithm of the choice of



advertisement is presented in fig. 7. It starts in step 501 from reading the list of advertisements, requested by the operator, broadcasted in the control channel. If this list exists and if it contains advertisements, unused in the current advertisement break, which is checked in step 502, a next advertisement is fetched from the list in step 503. Next, the procedure checks in step 504, if this advertisement is available in the local memory. If so, the procedure finishes and comes to displaying advertisement in step 511. If there is no operator's list or all its advertisements are used, the procedure reads in step 505 the current conditions, which are the number of the currently chosen channel and the current time. Next, after defining the advertisements set in step 506, it chooses from the set of available advertisements the ones, which fulfill the current conditions. Next, when there are such advertisements and they have not been used yet, which is conducted in block 507, it chooses at random (draws) one of them in step 508. Next it checks in step 509, if the previous advertisement is not a competitive advertisement to this advertisement and vice versa – if this advertisement is not competitive to the previous advertisement (by means of comparing the fields of the identifier of the advertisement and the list of competitive advertisements). If not, the advertisement will be displayed in step 511. If the advertisement is competitive, next advertisement from the set is chosen at random (drawn). If the set is empty (no advertisements fulfilling the conditions or all advertisements used), in step 510 any advertisement from the set of advertisements, available in the local memory is drawn and displayed in step 511. The procedure of choosing the advertisements can be complemented by a possibility of a choice by the user of the type of advertisements, which are to be displayed. For example, the user could decide that he/she would like to watch advertisements from the child products segment. The user could also decide on the list of segments, out of which he/she would like to watch advertisements or block the segments, which are not interesting to him/her. The method of choice of the type of advertisement is obvious still and based on known solutions, that is why it is not presented in a diagram.

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During reception of the television signal, there is a procedure active in the background, which monitors the advertisement channel – the general advertisement channel or advertisement channel assigned to the currently watched primary channel. Advertising units are fetched from this channel and recorded in the local memory. When there is no space in the local memory, new units are recorded in place of the



oldest or these, which validity runs out soon. The method of operation of such
procedure is well-known and evident. The method of operation of the procedure for
400 deleting advertising units for which the validity has expired is similarly obvious. Such
procedure can be, for example started once a day. It reviews the advertising units,
checking their expiry date, while when it finds a unit, the validity of which has
expired, deletes it from the memory. There is also such version of the embodiment of
the system possible, in which more than one version of the advertisement channel will
405 be broadcasted. This requires applying a separate control channel for each of the new
advertising channels. In each control channel advertisement and program tags can be
broadcasted at different times. Moreover, for each such channel different lists of
advertisements for displaying can be broadcasted.

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PhD Eng LUDWIK HUDY
Patent Attorney
Reg. No 3098

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Patent Claims

1. A system of transmission of television programs with a variable number of advertisements, including a transmitter transmitting television programs and advertisements and devices receiving television programs and advertisements, characterized in that the transmitter (161) has a system (162) for transmitting the signal controlling the number of displayed advertisements, and devices (103) receiving the television programs have a system (113) for receiving the signal controlling the number of displayed advertisements.

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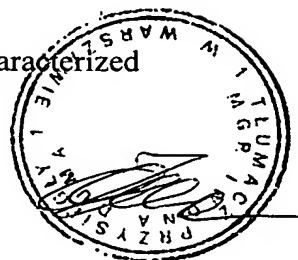
2. A system of transmission of television programs according to claim 1, characterized in that the television programs are transmitted on primary channels, advertisements on the channel with advertising units, and the signal controlling the number of displayed advertisements on control channel.

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3. A system of transmission of television programs according to claim 1, characterized in that the control signal includes tags of program P, which control recording of the signal from the primary channel and tags of advertisement R, controlling playback of the recorded signal or advertisement.

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4. A system of transmission of television programs according to claim 3, characterized



55 separated in the device (111), which receives television programs, in which there is
control channel assigned to it.

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60 11. A method of transmission of television programs in the system of transmission of
television programs with a variable number of advertisements, which includes a
transmitter transmitting television programs and advertisements and a device receiving
television programs and advertisements, characterized in that on the primary channel
besides the television program there is a control signal transmitted, which forces
advertisements display.

65 12. A method of transmission of television programs according to claim 11,
characterized in that the advertisements are displayed on the screen of television set
after stopping the display of the television program.

70 13. A method of transmission of television programs according to claim 11,
characterized in that advertisements are displayed in a specific place on the screen
together with a display of the television program.

75 14. A method of transmission of television programs according to claim 11,
characterized in that advertisements are displayed after activation of control signal by
means of a determined button of remote control unit.

15. A method of transmission of television programs according to claim 11,
characterized in that it displays advertisements after choosing the advertising channel.

80 16. A method of transmission of television programs according to claim 11,
characterized in that the advertisements to be displayed on the screen of the television
set are broadcasted on the advertisement channel and recorded on a data carrier and
fetched from the data carrier after activating the control signal.

85 17. A method of transmission of television programs according to claim 11,
characterized in that the control signal includes tags P and R, which force a stop of
signal playback from the primary channel and a start of advertisements display, the
tags, which force background recording of the signal from the primary channel or a



data carrier,

- 90 the tags, which order to play the signal from the primary channel and the tags, which order to play the signal from the data carrier, and the tags, which stop background recording of the signal from the primary channel on the data carrier.

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PhD Eng LUDWIK HUDY

Patent Attorney

Reg. No 3098

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/the subsequent pages are numbered in handwriting from 5 to 10/

/the subsequent pages are stamped at the bottom of the page with the oblong stamp with the following contents:/

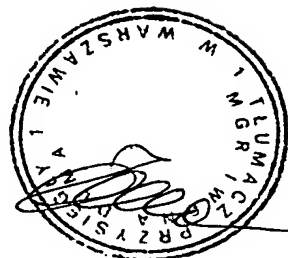
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Patent Attorney

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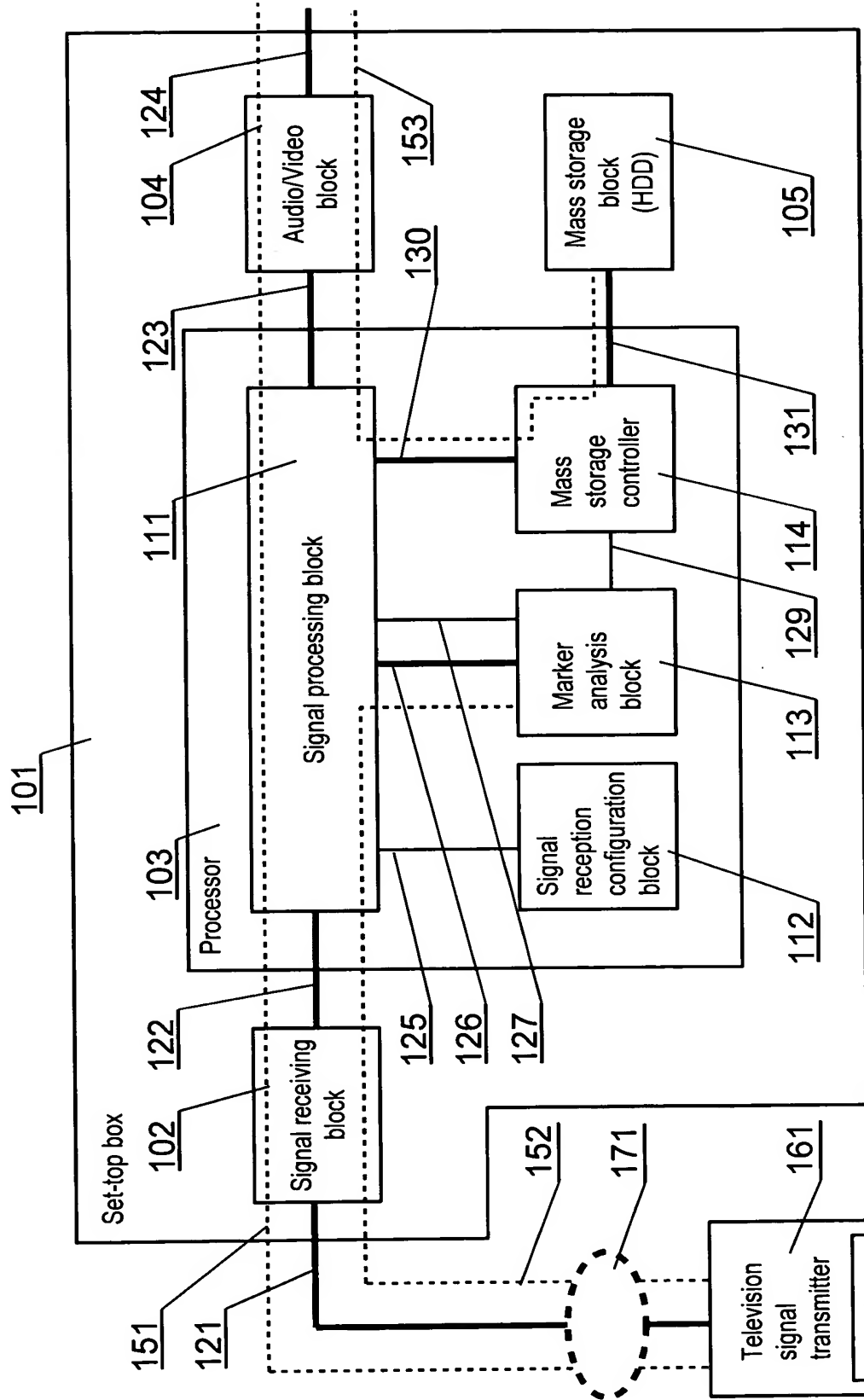
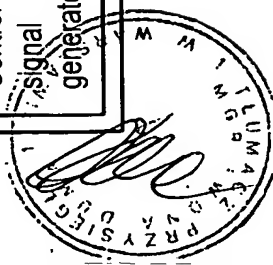


Fig. 1



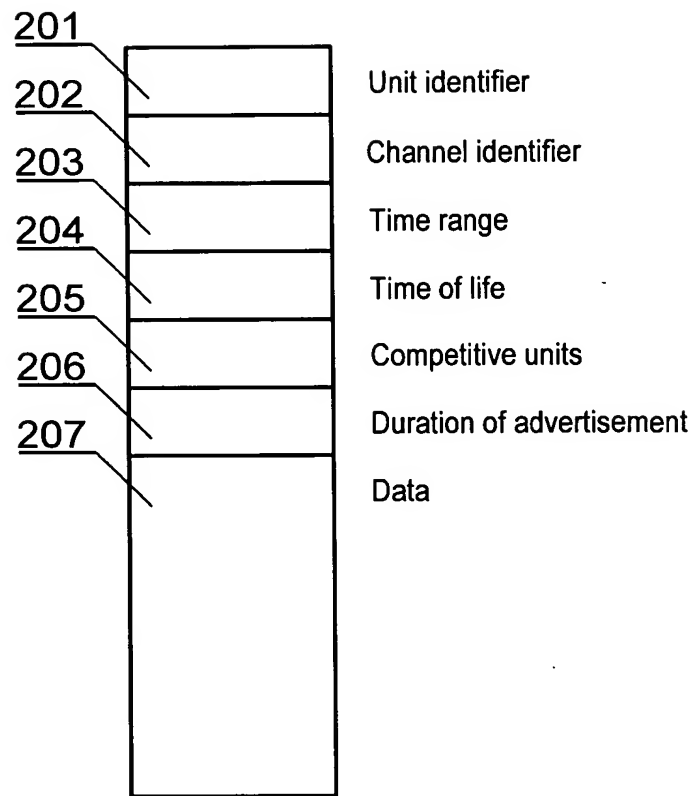


Fig. 2

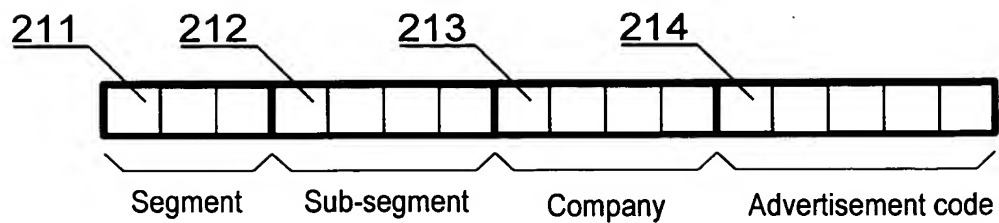


Fig. 3



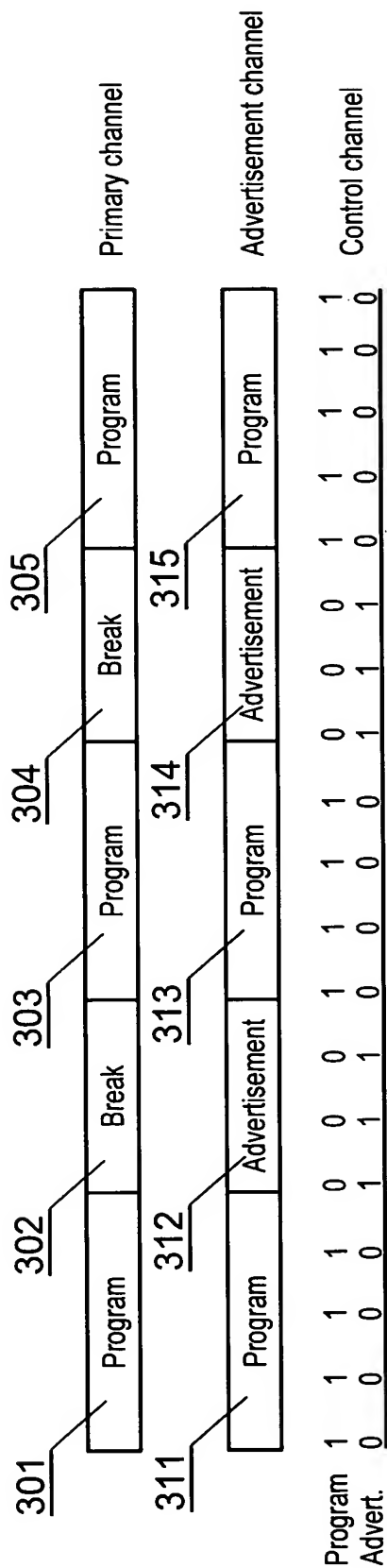


Fig. 4

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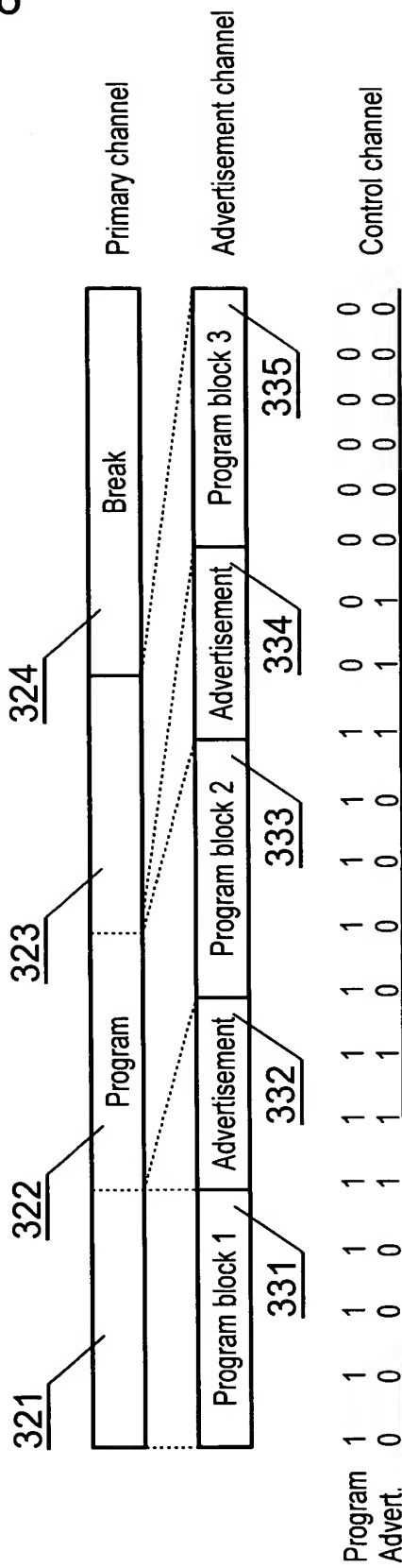
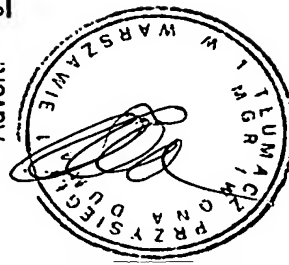


Fig. 5



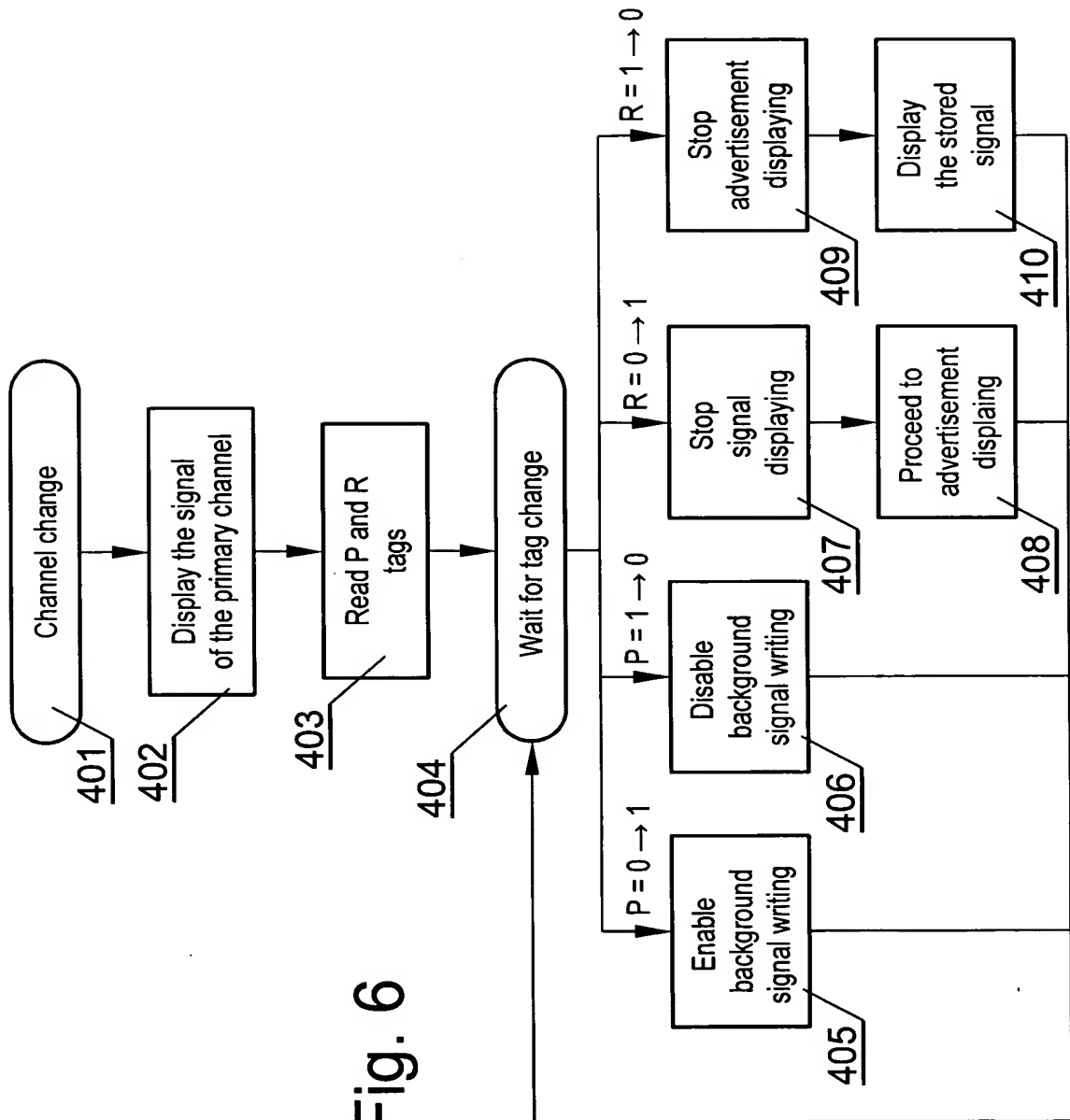


Fig. 6



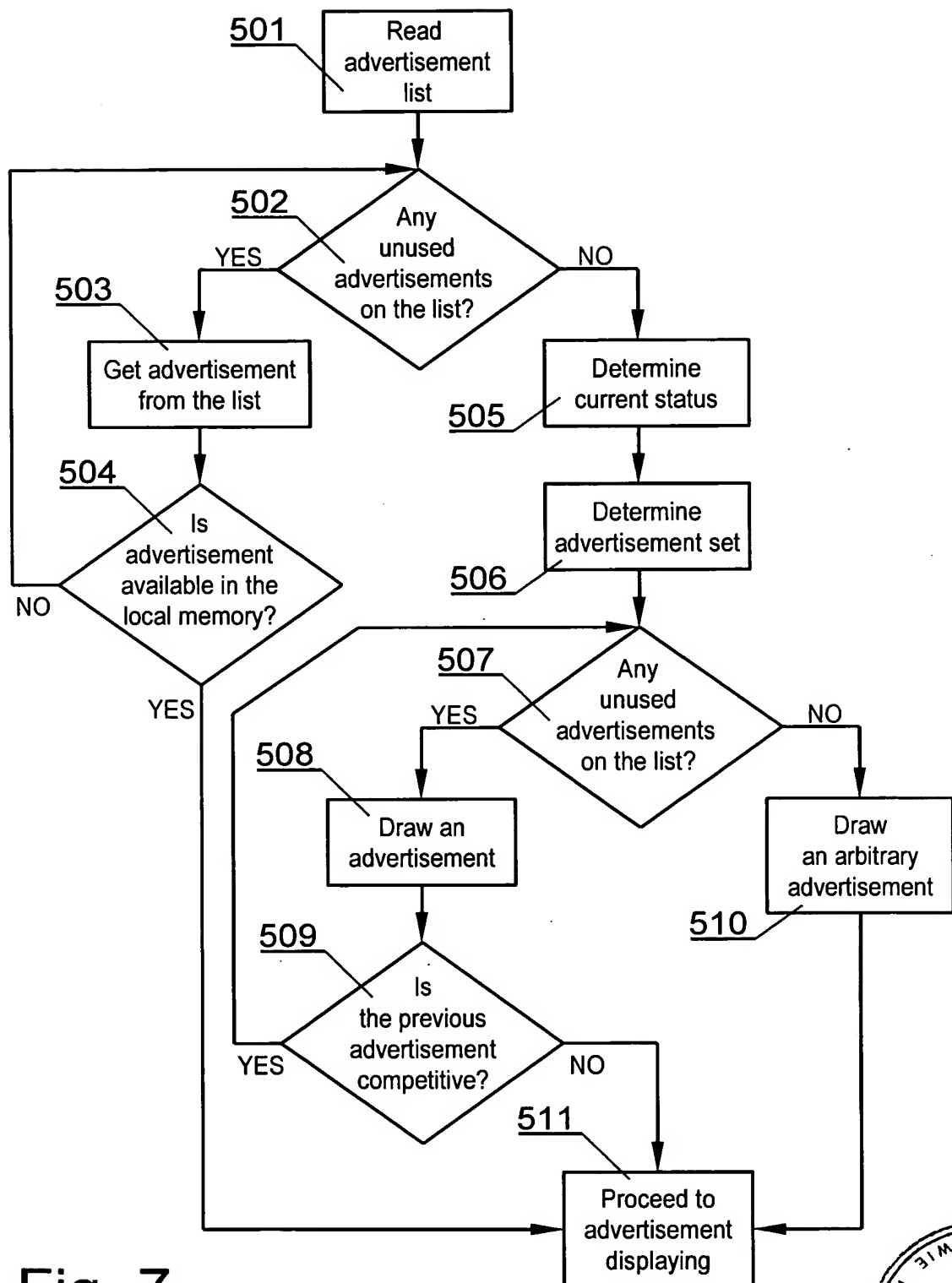
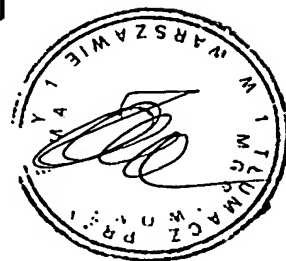


Fig. 7



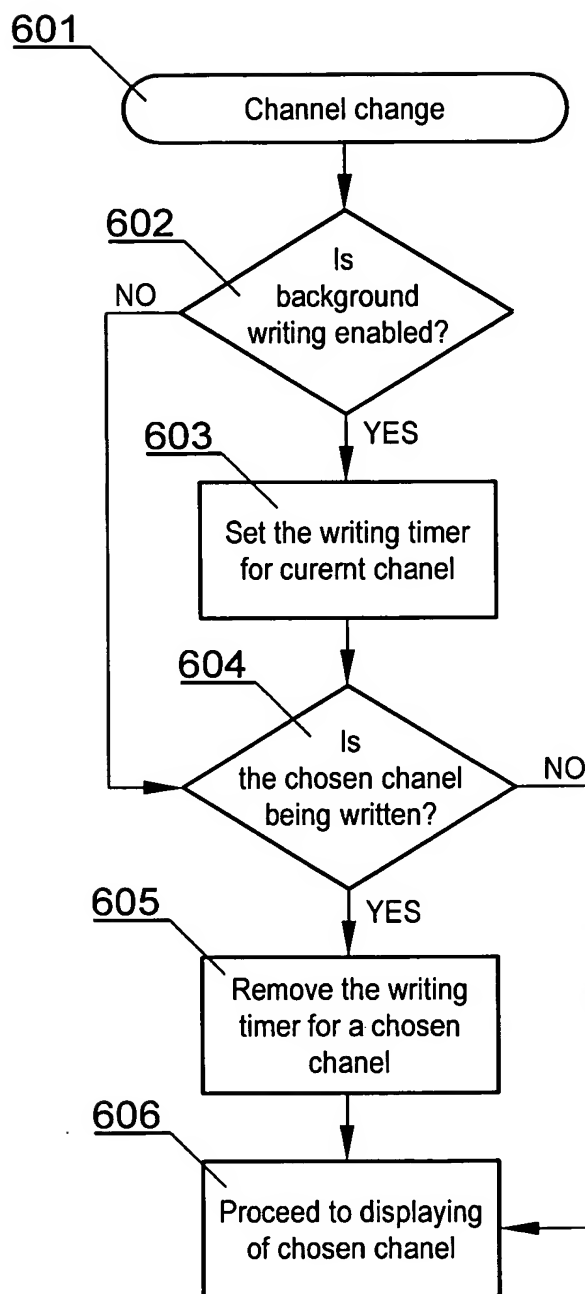


Fig. 8



Repertory No.: 668/11/2003

I, the undersigned, Iwona Duma, sworn translator of the English language for the District Court of the City of Warsaw, hereby certify that the above text is a true and complete translation of the original Polish document.

Warsaw, 6 November, 2003.

